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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,982	03/21/2008	Roger Malherbe	HAM 842079	3747

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EXAMINER	
OH, TAYLOR V	

ART UNIT	PAPER NUMBER
1625	

NOTIFICATION DATE	DELIVERY MODE
02/07/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/560,982	MALHERBE ET AL.	
	Examiner	Art Unit	
	Taylor Victor Oh	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The Status of Claims:

Claims 1-7 are pending.

Claims 1-7 are rejected.

DETAILED ACTION

1. Claims 1-7 are under consideration in this Office Action.

Priority

2. It is noted that this application is a 371 of PCT/EP04/51275 (06/28/04), which has a foreign priority document, Switzerland 01150/03 (06/30/03) which is not in the file.

Drawings

3. None.

Claim Rejections - 35 USC § 102

2113 [R-1] Product-by-Process Claims

PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE

IMPLIED BY THE STEPS

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.).

>The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.)<

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated clearly by Dobinson et al (US 4,540,769).

Dobinson et al discloses the aromatic N-glycidylamine compound in the following (see from col. 6 ,line 60 to col. 7 line 11) :

> Aniline (100 g), toluene (150 g) and 50% lanthanum nitrate in 2-methoxyethanol (1 g) are heated to 60° C. and a vacuum (18665 Pa=140 mm Hg) is applied. Epichlorohydrin (216.6 g) is added portionwise over 1 hour, after which the vacuum is broken and the temperature raised to 80° C. Further catalyst solution (1 g) is added and the mixture maintained at 80° C. for 4 hours,
>
> followed by the addition of 50% aqueous benzyltrimethylammonium chloride (1.5 g) and adjustment of the temperature to 75° C. Sodium hydroxide (103.2 g) is added in 10 equal portions at 10 minute intervals, following which the mixture is maintained at 75° C. for 1 hour and then treated with water (350 ml). The aqueous layer is discarded, and the organic layer is washed with brine solution as described in Example 1 (250 ml), then evaporated in vacuo to give a product having an epoxide content of 9.19 equivalents/kg (94.4% of theory) and a viscosity at 25° C. of 0.09 Pa s.

This is identical with the claim since the claim is directed to the product –by-process claim.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobinson et al (US 4,540,769) in view of Christian Reichardt (Solvents and Solvent Effect in Organic Chemistry , 3rd ed. , 2003, Appendix, p. 471-507).

Dobinson et al discloses the preparation of aromatic N-glycidylamine compound in the following example (see from col. 6 ,line 60 to col. 7 line 11) :

Aniline (100 g), toluene (150 g) and 50% lanthanum nitrate in 2-methoxyethanol (1 g) are heated to 60° C. and a vacuum (18665 Pa=140 mm Hg) is applied. Epichlorohydrin (216.6 g) is added portionwise over 1 hour, after which the vacuum is broken and the temperature raised to 80° C. Further catalyst solution (1 g) is added and the mixture maintained at 80° C. for 4 hours,

followed by the addition of 50% aqueous benzyltrimethylammonium chloride (1.5 g) and adjustment of the temperature to 75° C. Sodium hydroxide (103.2 g) is added in 10 equal portions at 10 minute intervals, following which the mixture is maintained at 75° C. for 1 hour and then treated with water (350 ml). The aqueous layer is discarded, and the organic layer is washed with brine solution as described in Example 1 (250 ml), then evaporated in vacuo to give a product having an epoxide content of 9.19 equivalents/kg (94.4% of theory) and a viscosity at 25° C. of 0.09 Pa s.

One aspect of this invention therefore comprises a process for the preparation of aromatic N-glycidylamines which comprises heating an amine having at least one and preferably at least two aromatic amino hydrogen atoms with at least 0.7 equivalent, and preferably 0.8 to 1.5 equivalents, per amino hydrogen equivalent of the aromatic amine, of epichlorohydrin, in the presence

of a di- or higher-valent metal salt of (a) nitric or perchloric acid or (b) a carboxylic or sulphonic acid substituted by fluorine, chlorine or bromine on the carbon atom alpha to the carboxylic or sulphonic acid group, and dehydrochlorinating the product. Another aspect of this invention comprises aromatic N-glycidylamines prepared by this process.

> Preferably, the nitrates and perchlorates used as catalysts in the novel process are those of metals of groups IIA, IIB, IIIB, VIIB or VIII of the Periodic Table, as shown in the Handbook of Chemistry, Lange, 12th Edition published by McGraw-Hill. Nitrates and perchlorates of magnesium, calcium, zinc, manganese, nickel, lanthanum, vanadium (as vanadyl), ytterbium, and uranium (as uranyl) are particularly preferred.

(see from col. 2 ,line 62 to col. 3, line 16)

> The catalyst is best incorporated into the reaction mixture dissolved in an inert organic solvent such as 2-methoxyethanol, isodecanol, ethylene glycol, diethylene glycol, N-methylpyrrolidone, gamma butyrolacetone, benzyl alcohol, dibutyl phthalate, butane-1,4-diol, ethyl methyl ketone, benzene or toluene. The reaction is usually effected in an inert solvent, for example one or more of those listed above, at an elevated temperature,

(see col. 4 ,lines 29-36).

The instant invention, however, differs from the prior art in that the use of the claimed propylene carbonate is unspecified.

Christian Reichardt teaches various well-known organic solvents having the high dielectric constant such as 1,2-ethanediol, diethylene glycol, 2-methyoxyethanol,and propylene carbonate as an important organic solvent (see page 472, table A-1).

Dobinson et al expressly discloses the preparation of aromatic N-glycidylamine compound during which epichlorohydrin , amine and the catalyst are incorporated into the reaction mixture dissolved in an inert organic solvent , such as 1,2-ethanediol, diethylene glycol, 2-methyoxyethanol (see col. 4, lines 29-35), then dehydrochlorination is effected by convention means. Furthermore, it seems reasonable to select one of the well-known organic solvents having the high dielectric constant such as 1,2-ethanediol, diethylene glycol, 2-methyoxyethanol,and propylene carbonate as an important organic solvent as taught by Christian Reichardt.

Therefore, it would have been obvious to the skilled artisan in the art to be motivated to employ the well-known propylene carbonate solvent from the teachings of Reichardt as an alternative to 1,2-ethanediol in the Dobinson et al process in order to conduct the experiment in the inert solvent having the high dielectric constant for solvating the metal salt easily prior to dehydrochlorination. This is because the skilled artisan in the art would expect such a manipulation to be successful and feasible as guidance shown in the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 571-272-0689. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Taylor Victor Oh, MSD,LAC
Primary Examiner
Art Unit :1625

/Taylor Victor Oh/
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2/1/11